

If Mothers Had Their Say: Research Informed Intervention Design for Empowering Mothers to Establish Smoke-free Homes

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Introduction

Evidence indicates that the 60% of America's children exposed to environmental tobacco smoke (ETS) exhibit significantly higher rates of health, learning, and behavioral problems. These risks are compounded for babies who experienced respiratory complications at or shortly following birth (Bock, Becker, & Borrelli, 2008; DiFranza, Aligne, & Weitzman, 2004; Hannöver et al., 2008). Not only are they vulnerable to ETS exposure, second-hand smoke, but also to tobacco smoke residue (TSR) in the environment, third-hand smoke.

The long term health promotion goal of the EMESH (*Empowering Mothers to Establish Smoke-free Homes*) Project is to reduce infants' exposure to ETS and TSR following release from neonatal intensive care units (NICUs) where advanced respiratory support was delivered. The EMESH project has completed the first two phases of development: semi-structured interviews of infants' parents/caregivers and content review of infants' medical records. These first two phases were designed to inform subsequent intervention phases of the project.

Methods

Phase I. Semi-Structured Interviews

Caregivers for 20 infants with bronchopulmonary dysplasia (BPD) were interviewed (6 in NICU and 14 in BPD clinic), if their babies were in regular contact with a smoker. Interview questions addressed motivators and barriers to changing the baby's exposure, and what a menu of intervention options might look like. The brief interviews were conducted by trained outside (social work) interviewers, audio recorded with accompanying hand written notes, and transcribed. Interviews were coded with the coding scheme emerging from interview response sets.

Phase II. Secondary Analysis Medical Records Review

A total of 75 medical records were randomly selected from among 281 active NICU and follow-up clinic rosters. Infants' records were coded for demographic, health care, and smoke exposure discussion notes. Coding schemes were initially composed, then modified according to actual response sets, and data were subsequently recoded. Ambiguous coding was resolved through consultation among team members. Results were discussed with health care team members for their interpretation insights.

All procedures in both phases were approved by the two IRBs involved.

Results

Phase I

Motivators for Changing Baby's ETS/TSR Exposure

- Healthy baby/child, better self/family health, cleaner home environment, increased self-confidence & self-respect, financial savings, personal hygiene.

Barriers to Changing Baby's ETS/TSR Exposure

- Personal attitude (i.e. apathy, selfishness, indifference), unaware of smoking-related consequences or their severity, physical and emotional addiction, difficulty of quitting, comfort/pleasure from smoking, fear of confronting others who smoke near baby, influence from other smokers, lacking quitting resources for self or others.

Important Elements in a Menu of Intervention Options

- ETS and TSR education and tools, smoking cessation resources, coaching and guidance for addressing others exposing baby to ETS/TSR, accessibility of services and resources (i.e. transportation assistance, childcare, take-home materials), assistance with professional cleaning of smoke residue from home and car. Consensus was to begin working on ETS/TSR issues as early as possible after the family has adjusted to having a baby experiencing a need for NICU care.

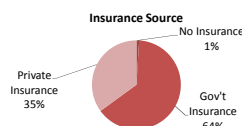
Confidence

- Overall, respondents had high confidence in their potential effectiveness for making baby's world smoke-free: on a 10-point scale, 50% rated themselves 9-10 (very high), with the remaining responses spread across the 1-8 range.

Phase II

Infant/Family Demographics

- Infants ranged in age from 5-59 months ($M=25$ months)
- Baby boys outnumbered girls (65% to 35%)

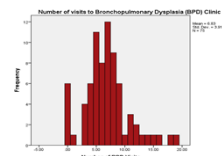
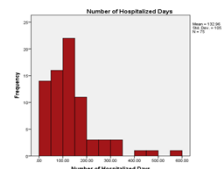


- A majority of these infants received government health benefits (i.e. Medicaid).

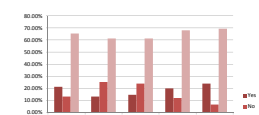
- 53% ($n=70$) lived in counties with prenatal maternal smoking rates of 13-15% and 46% lived where these rates were over 15% (Ohio Department of Health, 2008).

Health Care

- The total number of infants' inpatient days ranged 1-596; $M=133$ days ($SD=105$ days) and they attended an average of 6.8 BPD visits ($SD=3.9$).



Smoke Exposure Discussions



- Minority of staff included information about: (a) mother's smoking history, (b) smoking status of others in the home, or (c) conversations about ETS or TSR exposure.
- Inconsistencies appeared in staff recordings (6 records) concerning the babies' ETS/TSR exposure and whether or not a parent/other caregiver smoked.

Conclusions & Implications

Given results for EMESH Project Phases I and II, there are several implications for future research. Mothers and other caregivers welcomed and requested ETS and TSR education. This is consistent with the findings of Cluss and Moss (2002) who reported that both smoking and non-smoking parents welcomed these conversations from their children's health care providers. Mothers and other caregivers varied in their responses about elements that would assist them in creating a smoke-free home for their babies; this variation supports the empowerment spirit of this project which proposes a menu-driven intervention that can be tailored by each mother/caregiver to fit unique and changing needs.

Phase II suggests that there is a lack of routine documentation pertaining to ETS and TSR exposure conversations between medical staff and parents/caregivers. It is unclear if these conversations are or are not taking place; either way, the lack of documentation excludes vital information about babies' environmental contexts. If ETS/TSR exposure is known, medical and social work staff have an opportunity to address smoking behavior and pass this information on to all members of the infant's care team. Health and social work practitioners have extended periods of hospitalization and follow-up clinic access to work with mothers and caregivers toward reducing/eliminating infants' ETS and TSR exposure.

Results suggest the need for staff training interventions regarding hosting and documenting these difficult conversations (Phase III) and elements of the menu of services (Phase IV), as well as study of these social work intervention strategies.

References

- Bock, B.C., Becker, B.M., & Borrelli, B. (2008). Smoking behavior and risk perception among the parents of infants in the neonatal intensive care unit. *Nicotine & Tobacco Research, 10* (1), 47-54.
- Cluss, P.A., & Moss, D. (2002). Parent attitudes about pediatricians addressing parental smoking. *Ambulatory Pediatrics, 2* (6), 485-488.
- DiFranza, D.R., Aligne, C.A., & Weitzman, M. (2004). Prenatal and postnatal environmental tobacco smoke exposure and children's health. *Pediatrics, 113* (Supplement, 3), 1007-1015.
- Hannöver, W., Thyrian, J.R., Ebner, A., Röske, K., Grempler, J., Kühn, R., Hapke, U., Fusch, C., & John, U. (2008). Smoking during pregnancy and postpartum: Smoking rates and intention to quit smoking or resume after pregnancy. *Journal of Women's Health, 17* (4), 631-640.
- Ohio Department of Health, Office of Healthy Ohio. (2008). *Healthy Ohio community profiles*. Retrieved from: <http://www.healthiohio.org/resources/data/reports/profiles.aspx>

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